



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,696	04/13/2004	Maurizio Pilu	1509-487	2914
<div>7590 09/10/2007 HEWLETT-PACKARD COMPANY Intellectual Property Administration P.O. Box 272400 Fort Collins, CO 80527-2400</div>			<div>EXAMINER CHEN, CHIA WEI A</div>	
			<div>ART UNIT 2622</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE 09/10/2007</div>	<div>DELIVERY MODE PAPER</div>

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/822,696

Applicant(s)

PILU, MAURIZIO

Examiner

Chia-Wei A. Chen

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/13/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The references listed on the Information Disclosure Statement filed on 4/13/2004 have been considered by the examiner (see attached PTO/SB/08).

Claim Objections

3. Claims 24-28 are objected to because of the following informalities:

As to claims 24-28, in the first lines of each claim 24-28, the phrase "The method as claimed in claim in claim 23" should be changed to "The method as claimed in claim 23."

As to claim 26, the sentence is incomplete. The last line of claim 26 is missing a parameter to be detected: "... said step of detecting an attention clue exhibited by the at least one animate object comprises **detecting of said at** least one first animate object."

Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 42 is/are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 42 defines a computer

Art Unit: 2622

program embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., “When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized” – Guidelines Annex IV). That is, the scope of the presently claimed computer program can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on “computer-readable medium” or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-6, 8-12, 15-59 are rejected under 35 U.S.C. 102(e) as being anticipated by Mann (US 2002/0057915 A1).

As to claim 1, Mann teaches, in figure 3A, an attention detection system comprising:

- at least one first sensor device (heart monitor) for generating a signal relating to a host wearer from a host perspective and relating to attention clue signals (paragraph [0168]); and
- at least one second sensor device for generating a signal relating to the host wearer from an observer perspective and relating to said attention clue signals (separate unit worn by at least a second user (safetycharm/camera worn by another individual; paragraph [0144]) ;
- a portable attention detector (processor 150) for receiving the host perspective and the perspective attention clue signals and for determining a situation of raised attention of said host wearer from said host perspective attention clues and said received observer perspective attention clues (paragraph [0101]).

As to claim 2, Mann teaches the attention detection system as claimed in claim 1, further comprising:

- an image capture device (camera 310) for capturing an image from the self-perspective of said host wearer in response to a determined situation of raised attention (paragraph [0156]).

As to claim 3, Mann teaches the system as claimed in claim 1, wherein said at least one first sensor device is adapted to be worn by said host wearer (safetycharm or sports bra may be worn as in Fig. 2; paragraph [0128], [0159]).

As to claim 4, Mann teaches the system as claimed in claim 1, wherein said at least one second sensor device is adapted to be worn by a wearer other than the host wearer (multiple users wearing the safetycharm or sports bra device as in Fig. 2; paragraph [0144]).

As to claim 5, Mann teaches the system as claimed in claim 1, wherein said at least one second sensor device is adapted to be located in a place where said host user is likely to be (individuals wearing devices situated in the same room; Fig. 2, paragraph [0142]).

As to claim 6, Mann teaches the system as claimed in claim 1, further comprising a people-observing device (camera 120) for communicating with said attention detector (paragraph [0101]).

As to claim 8, Mann teaches the system as claimed in claim 6, further comprising at least one camera device (cameras 310, Fig. 3b).

As to claim 9, Mann teaches the system as claimed in claim 1 further comprising first and second user-observing devices adapted for using beacons to locate and detect each other (transceivers in each wearable device 142, 162, Fig. 1a, paragraphs [0104]-[0106]).

As to claim 10, Mann teaches the system as claimed in claim 1 wherein the portable attention detector and the at least one first sensor device is integrated into a host wearable device (paragraph [0168]).

As to claim 11, Mann teaches the system as claimed in claim 1, further comprising a people-observing device for communicating with said attention detector, wherein said people-observing device is configurable for cooperating with at least one other people-observing device for communicating information with said at least one other people-observing device (Fig. 2, paragraph [0128]).

As to claim 12, Mann teaches the system as claimed in claim 1, further comprising a people-observing device for communicating with said attention detection module, wherein said people-observing device is configurable for recognizing at least one other people-observing device to form a group of people-observing devices capable of recognizing each other (Fig. 2, paragraph [0128]).

As to claim 15, Mann teaches the system as claimed in claim 1, further comprising at least one people-observing device that can be set to communicate or not communicate with at least one said attention detector depending upon the type of attention clue detected (attention detector/processor is not instructed to take pictures unless an attention criteria is met; paragraph [0047]).

Art Unit: 2622

As to claim 16, Mann teaches the system as claimed in claim 1, further comprising a digital camera device (310) for capturing a digital image (paragraph [0156]).

As to claim 17, Mann teaches the system as claimed in claim 1, wherein the at least one second sensor device is arranged for detecting a facial expression of said host wearer (face recognition; paragraph [0083]).

As to claim 18, Mann teaches the system as claimed in claim 1, wherein the at least one second sensor device is arranged for detecting an eye direction of said host wearer (gaze; paragraph [0168]).

As to claim 19, Mann teaches the system as claimed in claim 1, wherein the at least one second sensor device is arranged for detecting body language of said host wearer (heart rate monitor detects heart rate as a natural index to wearer's degree of arousal; paragraph [0168]).

As to claim 20, Mann teaches the system as claimed in claim 1, further comprising a detector for body posture of the host wearer (camera 120 can detect body posture of wearer; paragraph [0101]).

As to claim 21, Mann teaches the system as claimed in claim 1 further comprising a detector for the context of an environment where said host wearer is located (camera

Art Unit: 2622

120 can detect the context of an environment where host wearer is located; paragraph [0101], [0333]).

As to claim 22, Mann teaches the system as claimed in claim 1 further comprising a vocal utterance detector of the host wearer (microphone; paragraph [0168]).

As to claim 23, Mann teaches a method of capturing images using at least one camera (310) device, said method comprising:

- detecting an attention clue (gaze) exhibited by at least one first animate object from the perspective of a host second animate object carrying said at least one camera device, said attention clue indicating that the attention of the first animate object is drawn by a subject (paragraph [0168]);
- detecting an attention clue of said second animate object from an observer perspective external of said second animate object (paragraph [0168]);
- activating said at least one camera device for capturing an image of said subject in response to detection of said attention clues of the first and second animate objects (paragraph [0169]).

As to claim 24, Mann teaches the method as claimed in claim in claim 23, wherein said step of detecting an attention clue exhibited by the at least one animate object comprises detecting a facial expression of said at least one first animate object (face recognition; paragraph [0083]).

Art Unit: 2622

As to claim 25, Mann teaches the method as claimed in claim in claim 23, wherein said step of detecting an attention clue exhibited by the at least one animate object comprises detecting an eye direction of said at least one first animate object (gaze; paragraph [0168]).

As to claim 27, Mann teaches the method as claimed in claim in claim 23, wherein said step of detecting an attention clue exhibited by the at least one animate object comprises detecting body posture of said at least one first animate object (camera 120; paragraph [0101]).

As to claim 28, Mann teaches the method as claimed in claim in claim 23, wherein said step of detecting an attention clue exhibited by the at least one animate object comprises detecting a vocal utterance of said at least one first animate object (microphone; paragraph [0168]).

As to claim 29, Mann teaches the method as claimed in claim 23, wherein the detecting step for the attention clue of said second animate object comprises:

- capturing an image (paragraph [0169]); and
- performing image processing of said image to detect an attention clue of said second animate object selected from the set including (video processing is performed to detect movement patterns of a person; paragraph [0204], [0205]):

- a facial expression;
- an eye direction;
- a body movement (paragraph [0205]); and
- a body posture.

As to claim 30, Mann teaches a method of automatically capturing an image, said method comprising;

- detecting at least one attention signal (heart rate) in response to a detectable body parameter of at least one animate object;
- analyzing said at least one attention signal to determine an interest level (degree of arousal) of said at least one animate object; and
- capturing said image in response to said interest level (paragraphs [0168] and [0169]).

As to claim 31, Mann teaches the method as claimed in claim 30 further comprising;

- determining a situational saliency of a scene by analyzing said at least one attention signal (paragraph [0169]).

As to claim 32, Mann teaches the method as claimed in claim 31, wherein said analysis is performed in a mode of self perspective of said animate object (paragraph [0168]).

As to claim 33, Mann teaches a method as claimed in claim 31, wherein said analysis is performed in a mode of an observer perspective of said at least one animate object (paragraph [0204]).

As to claim 34, Mann teaches an image capture device comprising:

- an image detector device (120) for capturing an image;
- an attention detection component (processor 150) for determining an attention signal of a person from a self perspective (heart rate);
- a transponder device (receiver 140) for receiving activation signals from a remote source;
- said attention detection component being configured for identifying said activation signals, and activating capture of an image in response to said self perspective activation signal and said received activation signal (paragraph [0101], [0168]).

As to claim 35, Mann teaches a device for observing at least one first animate object, comprising:

- an interface (heart ECG electrodes) for interfacing with at least one sensor device (heart monitor); and
- a receiver (140) for a sensor signal representing aspects of body language of the first animate object, the aspects being observed from a position external of said first animate object (signals transmitted from other nodes; paragraph [0101]); and

- an analyzer (processor 150) for determining from said sensor signal at least one attention clue related to a second animate object observing the first animate object; and
- a transmitter (capture device 130) for transmitting the attention clue signals (capture device transmits the signals it captures to the processor/analyzer; paragraph [0101]).

As to claim 36, Mann teaches the device as claimed in claim 35, further comprising: a transponder device (160) for transmitting said sensor signals (paragraph [0101]).

As to claim 37, Mann teaches the device as claimed in claim 35, further comprising: an image capture device (camera 120) for capturing image frames (paragraph [0101]).

As to claim 38, Mann teaches an attention detection component in figure 6 for determining a level of attention of at least one animate object, said component comprising:

- an analyzer (processor 650) for (a) at least one attention clue signal (movement signature patterns), and (b) determining from said attention clue signal, a level of interest of said at least one animate object (paragraph [0205]).

As to claim 39, Mann teaches the attention detection component as claimed in claim 38, operable for: analyzing said attention clues in a self perspective mode, in which said attention clues relate to a single host animate object (paragraph [0168]).

As to claim 40, Mann teaches the attention detection component as claimed in claim 38, the component being operable in an observer perspective mode, in which said attention clues represent signals describing behavior of an animate object observed from a remote location (paragraph [0205]).

As to claim 41, Mann teaches the attention detection component as claimed in claim 38, comprising a transponder device (transmitter/receiver 160, 140) for receiving said attention clue signals from a remote sender device (paragraph [0101]).

As to claim 42, Mann teaches a computer program article of manufacture for causing a computer to perform steps comprising (paragraph [0247]):

- analyzing a plurality of sensor signals representing attention clues collected from a self perspective of a first animate object (signal collected from heart monitor), and attention clues collected from an observed perspective of said first animate object (camera 310), and determining from said sensor signals, a behavioral mode of the first animate object; and
- generating an image capture trigger signal for triggering an image capture device to capture image data, in response to a said sensed behavioral mode of said first animate object (image capture is triggered when heart rate is increased; paragraph [0168]).

Art Unit: 2622

As to claim 43, Mann teaches an attention detection system comprising:

- a portable attention detector (processor 150) for receiving attention clues generated from a self perspective (heart monitor) of a host wearer of said attention detector;
- an animate object observing device for observing said host wearer from an observer perspective external (camera 310) of said host wearer and determining attention clues of said host wearer from said observer perspective externally of said host wearer;
- said attention detector being capable of determining a situation of raised attention of said host wearer from said self perspective attention clues, and said received observer perspective attention clues (paragraph [0101], [0168], [0205]).

As to claim 44, Mann teaches a system, in figure 6, for detecting the attention level of a first animate object comprising:

- a first sensor (heart monitor) for generating a first signal relating to the attention level of the first animate object from the perspective of the first animate object (paragraph [0168], [0141]);
- a second sensor (camera 310) for generating a second signal relating to the first animate object from a perspective other than the first animate object; and
- a processor (650) for determining that the first animate object has a raised attention level in response to the first and second signals (paragraph [0204], [0205]).

As to claim 45, Mann teaches the system of claim 44 wherein the second sensor is arranged to respond to a parameter indicative of the attention being paid to the first animate object by a second animate object (sensor detects movement signature patterns of a subject; paragraph [0204]).

As to claim 46, Mann teaches the system of claim 45 wherein the first and second sensors are adapted to be carried by the first animate object (backpack based apparatus 600, Fig. 6; paragraph [0202]).

As to claim 47, Mann teaches the system of claim 46 wherein the second sensor comprises an image detector (camera 310) adapted to be responsive to at least a portion of an image of the second animate object (paragraph [0203]).

As to claim 48, Mann teaches the system of claim 45 wherein the first and second sensors are respectively adapted to be carried by the first and second animate objects (A group of backpack based apparatus wearers form a network. Some backpack based apparatuses may only include a camera while some may not. Paragraphs [0198]-[0199], [0202], Figs. 6A-6C).

As to claim 49, Mann teaches the system of claim 48 wherein the second sensor is connected to a transmitter (a) adapted to be carried by the second animate object, and

(b) arranged to transmit the second signal from the second animate object to the first animate object (transmitter 300; paragraph [0156]).

As to claim 50, Mann teaches the system of claim 44 wherein the second sensor is arranged to respond to a parameter indicative of the reaction of the first animate object to the environment where the first animate object is located (cameras observe a user's interaction with the environment; paragraph [0333]).

As to claim 51, Mann teaches the system of claim 50 wherein the second sensor is adapted to be located at a position removed from the first animate object, and further comprising a transmitter arranged to transmit the second signal from said position to a receiver (a) arranged to receive the second signal, and (b) adapted to be carried by the first animate object (receiver 140 receives signals/pictures from other nodes and may be integrated into a "safetycharm" device worn by the user; paragraph [0101], [0128]).

As to claims 52-59, these claims only differ from claims 44-51 in that claims 44-51 are apparatus claims whereas claims 52-59 are a method. Thus, method of claims 52-59 are analyzed as previously discussed in claims 44-51.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2622

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mann in view of Strub et al. (US 6,563,532 B1).

As to claim 7, Mann teaches the system as claimed in claim 6, further comprising a plurality of the people-observing devices, which are capable of:

- communicating with said attention detector,

but does not teach wherein the plurality of people-observing devices communicate with each other.

Strub et al. teaches wherein the plurality of people-observing devices communicates with each other (col. 64, lines 7-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the people-observing device communication with the attention detection system of Mann in order to minimize or eliminate the need for post-event processing to temporally synchronize the auxiliary data and recording data (col. 75, lines 60-66 of Strub et al.).

As to claim 13, Mann teaches the system as claimed in claim 12, but does not teach wherein said people-observing device can be set to communicate or not communicate with at least one other people-observing device based on an analysis of contextual information relating to the host user.

Art Unit: 2622

Strub et al. teaches wherein said people-observing device can be set to communicate or not communicate with at least one other people-observing device based on an analysis of contextual information relating to the host user (communication between people-observing devices are only permitted among users of a certain category; col. 35, line 56-col. 36, line 2).

As to claim 14, Mann teaches the system as claimed in claim 1, further comprising a people-observing device that can be set to communicate or not communicate with at least one other people-observing device based on an analysis of a type of attention clue detected (communication between people-observing devices are only permitted among users of a certain category; col. 35, line 56-col. 36, line 2).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Strub et al. (US 6,825,875 B1) discloses a hybrid recording unit including portable video recorder and auxiliary device.

Biocca et al. (US 2002/0080094 A1) discloses a teleportal face-to-face system.

Hashimoto et al. (US 6,616,607 B2) discloses a state information acquisition system, state information acquisition apparatus, attachable terminal apparatus, and state information acquisition method.

Basson et al. (US 2002/0103649 A1) discloses a wearable display system with indicators of speakers.


Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chia-Wei A. Chen whose telephone number is 571-270-1707. The examiner can normally be reached on Monday - Friday, 7:30 - 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CC
8/30/07


NGOC-YEN VU
SUPERVISORY PATENT EXAMINER